Table 2.3 Manufacturing Energy Consumption for Heat, Power, and Electricity Generation by End Use, 2006

Other Facility Support         17           Onsite Transportation         2           Conventional Electricity Generation         -           Other Non-Process Use         2           End Use Not Reported         7           Total         835           Indirect End Use (Boiler Fuel)         -           Conventional Boiler Use         -           CHP 6 and/or Cogeneration Process         -           Direct End Use         2           All Process Uses         2           Process Heating         -           Process Cooling and Refrigeration         -           Machine Drive         1           Electrochemical Processes         -           Other Process Uses         -           Facility Heating, Ventilation, and Air Conditioning 7         -           Facility Lighting         -           Other Facility Support         -           Onsite Transportation         -	-	Residual Fuel Oil	Distillate Fuel Oil	LPG <sup>2</sup> and NGL <sup>3</sup>	Natural Gas	014	
Indirect End Use (Boiler Fuel)	watthours		Distillate Fuel Oil  Million Barrels	LPG <sup>2</sup> and NGL <sup>3</sup>	Natural Gas Billion Cubic Feet	Coal <sup>4</sup> Million Short Tons	Total <sup>5</sup>
Conventional Boiler Use CHP 6 and/or Cogeneration Process							
Conventional Boiler Use	109	21	4	2	2.059	25	
CHP 6 and/or Cogeneration Process		11	3	2	1,245	6	
Direct End Use All Process Uses Process Heating All Process Cooling and Refrigeration Machine Drive Electrochemical Processes GOO Other Process Uses All Non-Process Uses Heating Other Facility Heating, Ventilation, and Air Conditioning Facility Lighting Conventional Electricity Generation Other Non-Process Use End Use Not Reported Total  All Non-Process Uses Total  All Process Uses Facility Lighting Sending Total  All Non-Process Use Total  All Process Uses Facility Pation Conventional Electricity Generation Total  All Non-Process Use Facility Support Total  All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning Facility Heating, Ventilation, and Air Conditioning Facility Heating, Ventilation, and Air Conditioning Facility Lighting Other Facility Support Onsite Transportation	109	10	3		814	19	
All Process Uses   657 Process Heating   101 Process Cooling and Refrigeration   60 Machine Drive   422 Electrochemical Processes   60 Other Process Uses   13 All Non-Process Uses   157 Facility Heating, Ventilation, and Air Conditioning 7   77 Facility Lighting   58 Other Facility Support   17 Onsite Transportation   2 Conventional Electricity Generation   Other Non-Process Use   2 End Use Not Reported   7 Total   835  Direct End Use (Boiler Fuel)   Conventional Boiler Use   CHP 6 and/or Cogeneration Process   2 Process Heating   Process Heating   Process Cooling and Refrigeration   1, Electrochemical Processes   1, All Non-Process Uses   1, Electrochemical Processes   1, Facility Heating, Ventilation, and Air Conditioning 7   Facility Heating, Ventilation, and Air Conditioning 7   Facility Lighting   1, Facility Lighting   Other Facility Support   1, Facility Fac	_	10		(s)	014	19	
Process Heating							
Process Heating	810	10	9	10	2.709	19	
Process Cooling and Refrigeration 60 Machine Drive 422 Electrochemical Processes 60 Other Process Uses 13 All Non-Process Uses 157 Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting 58 Other Facility Support 17 Onsite Transportation 2 Conventional Electricity Generation - Other Non-Process Use 2 End Use Not Reported 7 Fotal 835  Direct End Use (Boiler Fuel) 7 Conventional Boiler Use 7 Conventional Boiler Use 7 Conventional Boiler See 7 All Process Uses 7 Electrochemical Processes 9 CHP 6 and/or Cogeneration Process 9 Electrochemical Processes 9 Chep Facility Process Uses 11 Electrochemical Processes 9 Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting 7 Convent Transportation 9 Conventioning 7 Facility Support 19 Conventioning 7 Facility Lighting 7 Conventioning 7 Facility Support 19 Conventioning 7 Facility Support 19 Conventioning 7 Facility Support 19 Conventioning 7 Conve		9	3	8	2.417	16	
Machine Drive         422           Electrochemical Processes         60           Other Process Uses         13           All Non-Process Uses         157           Facility Heating, Ventilation, and Air Conditioning 7         77           Facility Lighting         58           Other Facility Support         17           Onsite Transportation         2           Conventional Electricity Generation         -           Other Non-Process Use         2           End Use Not Reported         7           Total         835           Indirect End Use (Boiler Fuel)         835           Conventional Boiler Use         2           CHP 6 and/or Cogeneration Process         2           Direct End Use         2           All Process Uses         2           Process Cooling and Refrigeration         1           Machine Drive         1           Electrochemical Processes         1           Other Process Uses         1           Facility Heating, Ventilation, and Air Conditioning 7         1           Facility Lighting         1           Orbital         1           Facility Lighting         1           Orbital         1		(s)	(s)	(s)	31	(s)	
Electrochemical Processes 60 Other Process Uses 13 All Non-Process Uses 157 Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting 58 Other Facility Support 17 Onsite Transportation 2 Conventional Electricity Generation Other Non-Process Use 2 End Use Not Reported 7 Total 835  Indirect End Use (Boiler Fuel) Conventional Boiler Use CHP 6 and/or Cogeneration Process CHP 6 and/or Cogeneration Process Heating Process Heating Process Cooling and Refrigeration Machine Drive 1, Electrochemical Processes Other Process Uses 1, Electrochemical Processes Ses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting Other Facility Support Onsite Transportation			(3)		126	3	
Other Process Uses 13  All Non-Process Uses 157 Facility Heating, Ventilation, and Air Conditioning 7 77 Facility Lighting 58 Other Facility Support 17 Onsite Transportation 2 Conventional Electricity Generation 5 Other Non-Process Use 2 End Use Not Reported 7 Fotal 835  Indirect End Use (Boiler Fuel) 5 Conventional Boiler Use 7 CHP 6 and/or Cogeneration Process 5 All Process Uses 2 Process Heating 7 Process Cooling and Refrigeration 8 Machine Drive 1, Electrochemical Processes 5 Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting 5 Other Facility Support 5 Onsite Transportation 6  157  157  157  157  157  157  157  15		(s)	4	(s)			
All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting							
Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting		(s)	1	<u>1</u>	136	(s)	
Facility Lighting		1	9	7	426	(s)	
Other Facility Support 17 Onsite Transportation 2 Conventional Electricity Generation 5 Other Non-Process Use 2 Ind Use Not Reported 7 Iotal 835 Indirect End Use (Boiler Fuel) 5 Conventional Boiler Use 7 CHP 6 and/or Cogeneration Process 8 Indirect End Use 8 All Process Uses 2 Process Heating 9 Process Cooling and Refrigeration 17 Electrochemical Processes 18 Indirect End Use 19 Indi		1	1	1	367	(s)	
Other Facility Support         17           Onsite Transportation         2           Conventional Electricity Generation         -           Other Non-Process Use         2           and Use Not Reported         7           fotal         835           Indirect End Use (Boiler Fuel)         -           Conventional Boiler Use         -           CHP 6 and/or Cogeneration Process         -           Direct End Use         2           All Process Uses         2           Process Heating         -           Process Cooling and Refrigeration         -           Machine Drive         1           Electrochemical Processes         -           Other Process Uses         -           Facility Heating, Ventilation, and Air Conditioning 7         -           Facility Lighting         -           Other Facility Support         -           Onsite Transportation         -	013						
Onsite Transportation 2 Conventional Electricity Generation - Other Non-Process Use 2 End Use Not Reported 7 Total 835  Indirect End Use (Boiler Fuel) Conventional Boiler Use CHP 6 and/or Cogeneration Process CHP 6 and/or Cogeneration Process Heating Process Heating Process Cooling and Refrigeration Machine Drive 1, Electrochemical Processes Other Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting Other Facility Support Consite Transportation Consite Transportation Consite Transportation Consite Transportation Consite Transportation Consiste	644	(s)	(s)	(s)	29	(s)	
Conventional Electricity Generation Other Non-Process Use 2  Ind Use Not Reported 7  Indirect End Use (Boiler Fuel) Conventional Boiler Use CHP 6 and/or Cogeneration Process  Direct End Use All Process Uses 2, Process Heating Process Cooling and Refrigeration Machine Drive 1, Electrochemical Processes Other Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting Other Facility Support Onsite Transportation	197	(-) - =	6	`5	3	(-) 	
Other Non-Process Use 2  Ind Use Not Reported 7  Iotal 835  Indirect End Use (Boiler Fuel)	-	(s)	1	(s)	19	(s)	
Ind Use Not Reported 7  Indirect End Use (Boiler Fuel) 835  Indirect End Use (Boiler Fuel) 835  Conventional Boiler Use 835  CHP 6 and/or Cogeneration Process 835  Indirect End Use 841 Process Uses 945  All Process Uses 95  Check Colling and Refrigeration 96  Machine Drive 97  Electrochemical Processes 97  Other Process Uses 97  Facility Heating, Ventilation, and Air Conditioning 7 97  Facility Lighting 97  Consider Transportation 97  Consider Tr	208		1	` '	8		
ndirect End Use (Boiler Fuel)  Conventional Boiler Use CHP 6 and/or Cogeneration Process  Direct End Use All Process Uses Process Heating Process Cooling and Refrigeration Machine Drive Electrochemical Processes Other Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting Other Facility Support Onsite Transportation	208	(s)	ı	(s)	0	(s)	
ndirect End Use (Boiler Fuel)  Conventional Boiler Use CHP 6 and/or Cogeneration Process  Direct End Use All Process Uses Process Heating Machine Drive Blectrochemical Processes All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Support Onsite Transportation  Converted Transportation  Converted Use All Non-Process Uses Facility Facility Support Onsite Transportation	634	8	1	1	164	2	
Conventional Boiler Use CHP 6 and/or Cogeneration Process  Direct End Use All Process Uses Process Heating Machine Drive	382	40	22	21	5,357	46	
Conventional Boiler Use CHP 6 and/or Cogeneration Process  Direct End Use All Process Uses Process Heating Process Cooling and Refrigeration Machine Drive				Trillion Btu			
Conventional Boiler Use  CHP 6 and/or Cogeneration Process  Direct End Use All Process Uses  Process Heating  Machine Drive  Electrochemical Processes  All Non-Process Uses  Facility Heating, Ventilation, and Air Conditioning 7  Facility Lighting  Other Facility Support  Onsite Transportation	41	133	23	8	2.119	547	2,871
CHP <sup>6</sup> and/or Cogeneration Process  Direct End Use All Process Uses 2, Process Heating Process Cooling and Refrigeration Machine Drive 1, Electrochemical Processes Other Process Uses All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning <sup>7</sup> Facility Lighting Other Facility Support Onsite Transportation	41	71	17	8	1.281	129	1.547
Direct End Use All Process Uses Process Heating Process Cooling and Refrigeration Machine Drive 1, Electrochemical Processes Other Process Uses All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting Other Facility Support Onsite Transportation		62	6	0	838	417	1,347
All Process Uses 2, Process Heating Process Cooling and Refrigeration 1, Electrochemical Processes Other Process Uses All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting Other Facility Support Onsite Transportation 1		02	0		030	417	1,324
Process Heating Process Cooling and Refrigeration Machine Drive 1, Electrochemical Processes Other Process Uses All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting Other Facility Support Onsite Transportation							
Process Cooling and Refrigeration	244	62	52	39	2,788	412	5,597
Machine Drive	346	59	19	32	2.487	345	3.288
Machine Drive	206	(s)	1	(s)	32	(s)	239
Electrochemical Processes Other Process Uses All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting Other Facility Support Onsite Transportation	441	2	24	2	129	56	1,654
Other Process Uses  All Non-Process Uses  Facility Heating, Ventilation, and Air Conditioning 7  Facility Lighting	206						206
All Non-Process Uses Facility Heating, Ventilation, and Air Conditioning 7 Facility Lighting	45	Q		5	140	10	208
Facility Heating, Ventilation, and Air Conditioning <sup>7</sup> Facility Lighting	539	6	50	27	438	6	1,066
Facility Lighting Other Facility Support Onsite Transportation		•				•	
Other Facility SupportOnsite Transportation	265	4	4	5	378	2	658
Onsite Transportation	198		7.7	77		7.7	198
	60	1	(s)	(s)	30	(s)	91
Conventional Electricity Generation	7		35	20	3		65
Our veritional Electricity Ochiciation	_	(s)	4	(s)	19	3	26
Other Non-Process Use	8	(s)	6	1	8	(s)	23
nd Use Not Reported	26	49	4	5	168	52	304
otal	20	251	129	79	5.512	1.016	9.838

<sup>&</sup>lt;sup>1</sup> "Net Electricity" is the sum of purchases, transfers in, and onsite generation from noncombustible renewable energy sources, minus quantities sold and transferred out; it excludes onsite generation from combustible fuels.

Notes: • Data are estimates for the total consumption of energy for the production of heat, power, and electricity generation, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to end uses are made on the basis of reasonable approximations by respondents. • Totals may not equal sum of components due to independent rounding, the presence of estimates that round to zero, and the presence of estimates that are withheld because the relative standard error is greater than 50 percent.

Web Page: For related information, see http://www.eia.gov/emeu/mecs.

Source: U.S. Energy Information Administration, Form EIA-846, "2006 Manufacturing Energy Consumption Survey."

<sup>&</sup>lt;sup>2</sup> Liquefied petroleum gases.

<sup>3</sup> Natural gas liquids.

Excludes coal coke and breeze.

<sup>&</sup>lt;sup>5</sup> Total of listed energy sources. Excludes inputs of unallocated energy sources (5,820 trillion Btu).

<sup>&</sup>lt;sup>6</sup> Combined-heat-and-power plants.

<sup>&</sup>lt;sup>7</sup> Excludes steam and hot water.

<sup>- =</sup> Not applicable. (s)=Estimate less than 0.5. Q=Withheld because relative standard error is greater than 50 percent.